

In the Abstract:

Please add the abstract to the specification as set forth on the separate sheet attached hereto.

In the Claims:

Claims which have been changed by this amendment are reproduced below and are labeled as "amended" or "new."

Please cancel claims 1-16 without prejudice.

Please add the following claims:

Sub
DI
17. (new) A computer mouse device for tracking user input and providing tactile feedback, said mouse device comprising:

21
CMT
a housing including a lower portion and a casing portion, said lower portion designed to move over a flat surface, said casing portion designed to be engaged by a palm of a user's hand when said lower portion is in contact with said flat surface;

a sensor provided within said housing that tracks the motion of said housing with respect to said flat surface, wherein motion data from said sensor is transmitted to a host computer for updating the status of a cursor on a graphical display displaying one or more graphical details;

signal lines connecting said mouse device with said host computer, wherein said mouse device receives over said signal lines a sensory feedback signal from said host computer when said cursor displayed on said host computer interacts with one of said graphical details in response to said motion data; and

an actuator included within and coupled to said housing, said actuator generating motion of said casing in a direction substantially orthogonal to said flat surface, thereby delivering a tactile sensation to said user's palm when said palm is in contact with said casing, said actuator delivering said tactile sensation in response to said sensory feedback signal received over said signal lines.

Sub P2
18. (new) A computer mouse device as recited in claim 17, wherein said actuator is capable of generating vibrations of varying frequency corresponding to different graphical details on said graphical display.

19. (new) A computer mouse device as recited in claim 17 wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

20. (new) A computer mouse device as recited in claim 17 wherein said actuator generates said motion in said entire housing of said computer mouse device.

Sub G3
21. (new) A computer mouse device as recited in claim 20 further comprising a resilient material, said resilient material enabling said vibration by storing and releasing energy.

Sub D2
22. (new) A computer mouse device as recited in claim 17 wherein said actuator generates said motion in said casing portion with respect to said lower portion.

23. (new) A computer mouse device as recited in claim 22 further comprising a resilient material, said resilient material being located within said housing between said casing portion and said lower portion.

24. (new) A computer mouse device as recited in claim 17 wherein said actuator is an electromagnetic actuator.

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25. (new) A computer mouse device as recited in claim 17 wherein at least one of said graphical details is a border of a window.

26. (new) A computer mouse device as recited in claim 17 wherein at least one of said graphical details is an icon.

27. (new) A computer mouse device as recited in claim 17 wherein different graphical details are coded with different vibration frequencies so that a user can identify said graphical details by vibration frequency.

Sub D3
28. (new) A computer mouse device as recited in claim 17 wherein said actuator generates motion of said casing by impacting said casing with a moving portion of said actuator.

29. (new) A computer mouse device as recited in claim 28 wherein said actuator impacts said casing at a location underneath said palm of said user when said palm contacts said casing.

30. (new) A computer mouse device for tracking user input and providing tactile feedback, said mouse device comprising:

a housing including a lower portion and a casing portion, said lower portion designed to move over a flat surface, said casing portion designed to be engaged by the palm of a user when said lower portion is in contact with said flat surface;

a sensor provided within said housing for tracking motion of said housing with respect to said flat surface, wherein motion data from said sensor is transmitted to a host computer for updating the status of a cursor on a graphical display containing one or more graphical details;

signal lines connecting said mouse device with said host computer, wherein said mouse device receives over said signal lines a sensory feedback signal from said host computer when said cursor displayed on said host computer interacts with one of said graphical details in response to said motion data; and

an actuator included within and coupled to said housing for generating up-down motion of said casing with respect to said flat surface, thereby delivering a bump sensation to said user's palm when said palm is in contact with said casing, said actuator delivering said bump sensation in response to said sensory feedback signal received over said signal lines.

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Sub F6
31. (new) A computer mouse device as recited in claim 30, wherein said actuator is capable of generating bump sensations of varying magnitude corresponding to different graphical details on said host computer's graphical display.

32. (new) A computer mouse device as recited in claim 30, wherein said actuator is capable of generating vibrations of varying frequency corresponding to different graphical details on said host computer's graphical display.

33. (new) A computer mouse device as recited in claim 30 wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

Sub F7
34. (new) A computer mouse device as recited in claim 30 wherein said actuator generates said motion in said entire housing of said computer mouse device.

Sub G9
35. (new) ~~A computer mouse mouse device as recited in claim 34 further comprising a resilient material, said resilient material enabling said vibration by storing and releasing energy.~~

Sub 24
36. (new) A computer mouse device as recited in claim 30 wherein said actuator generates said motion in said casing portion with respect to said lower portion.

37. (new) A computer mouse device as recited in claim 36 further comprising a resilient element, said resilient element being located within said housing between said casing portion and said lower portion.

Sub F9
38. (new) A computer mouse device as recited in claim 30 wherein said actuator is an electromagnetic actuator.

Sub I-17
39. (new) A computer mouse device as recited in claim 30 wherein at least one of said graphical details is a border of a window.

40. (new) A computer mouse device as recited in claim 30 wherein at least one of said graphical details is an icon.

Sub G-11
41. (new) A computer mouse device as recited in claim 30 wherein different graphical details are coded with different vibration frequencies so that a user can identify graphical details by vibration frequency.

C1 Sub D5
cmf
42. (new) A computer mouse device as recited in claim 30 wherein said actuator generates motion of said casing by impacting said casing with a moving portion of said actuator.

43. (new) A method for providing tactile feedback to a user of a mouse device in communication with a host computer, the method comprising:

providing motion signals to said host computer from said mouse device, wherein said motion signals represent motion of said mouse device on a flat surface;

receiving on said mouse device a sensory feedback signal from said host computer over signal lines, said sensory feedback signal being sent by said host computer when a cursor displayed on said host computer interacts with a graphical detail in response to said motion signals; and

generating a movement of a casing portion of said mouse device with respect to a bottom portion of said mouse device in response to said received sensory feedback signal, said movement being in a direction substantially orthogonal to said flat surface, said movement delivering a tactile sensation to said user's palm when said palm is in contact with said casing.

Sub F-11
44. (new) A method as recited in claim 43 wherein said actuator generates vibrations of varying frequency corresponding to different graphical details on said graphical display.

Sub
6-14

45. (new) A method as recited in claim 43 wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

Sub
F12

46. (new) A method as recited in claim 43 wherein said actuator is an electromagnetic actuator.

Sub
I-21

47. (new) A method as recited in claim 43 wherein at least one of said graphical details is a border of a window.

48. (new) A method as recited in claim 43 wherein at least one of said graphical details is an icon.

Sub
6-15

49. (new) A method as recited in claim 43 wherein different graphical details are coded with different vibration frequencies so that a user can identify graphical details by vibration frequency.

Sub
D6

50. (new) A method as recited in claim 43 wherein said actuator generates movement of said casing by impacting said casing with a moving portion of said actuator.

51. (new) A method as recited in claim 50 wherein said actuator impacts said casing at a location underneath said palm of said user when said palm contacts said casing.

52. (new) A method as recited in claim 43 wherein said movement of said casing includes a slanting of said casing in one direction with respect to said bottom portion.

53. (new) A method as recited in claim 43 wherein the cursor can be positioned within the borders of one of said graphical details, wherein said cursor is caused to remain within said borders until said cursor is released by said user pressing down said casing of said mouse device.